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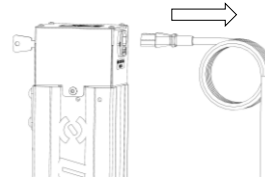
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vanmaelebenelux.be • info@vanmaelebenelux.be

ERS-1 disassembly of the entire rack drive

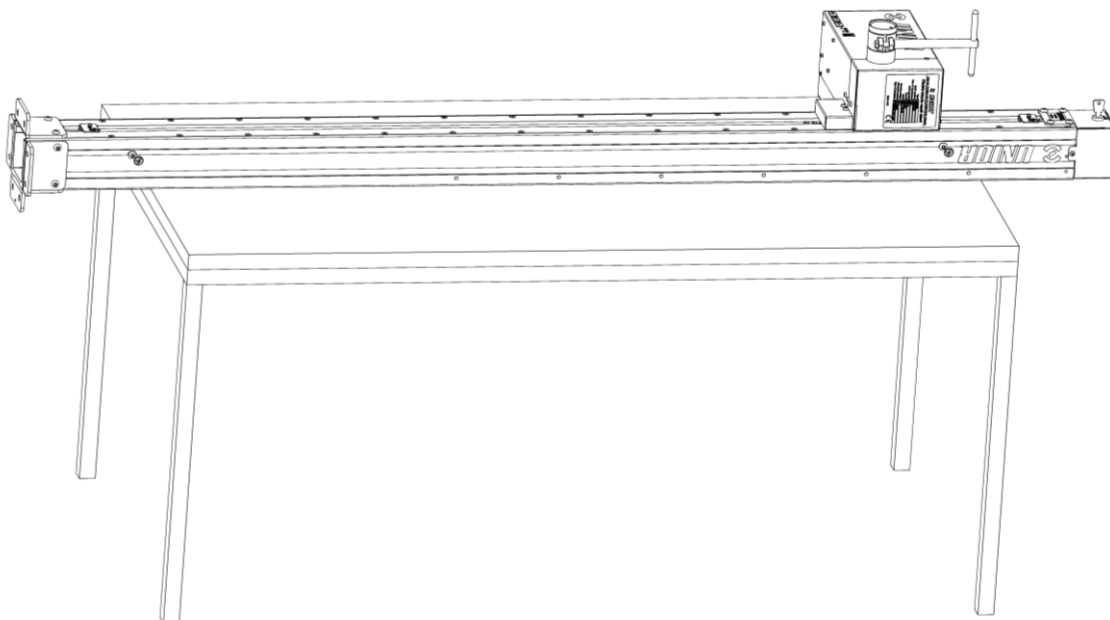
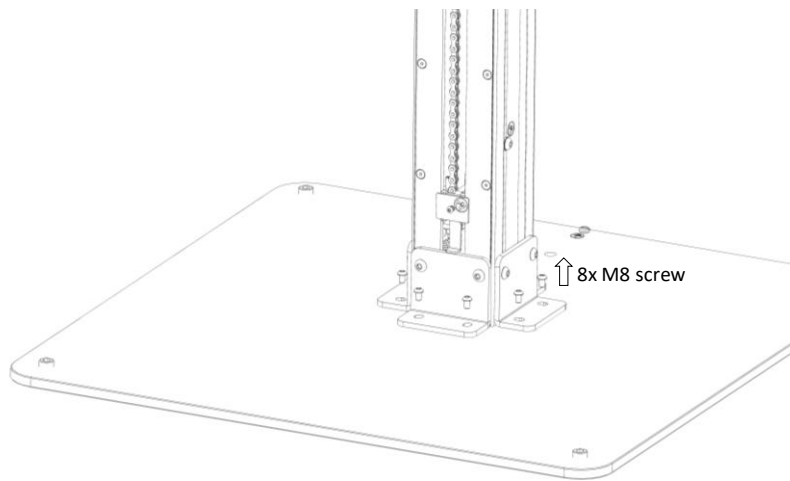
Disassembly and repair instructions:

1. Disassembly of the entire rack drive:

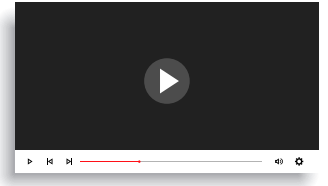
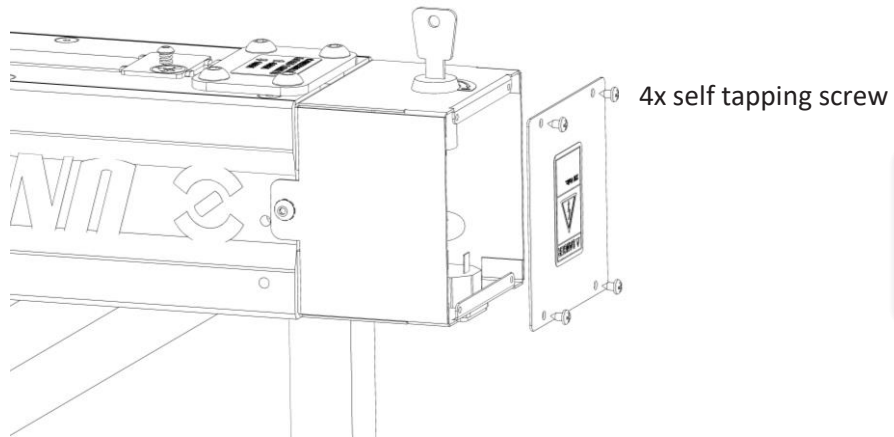
- a) Disconnect the power supply and unplug the power cord from the rack socket.



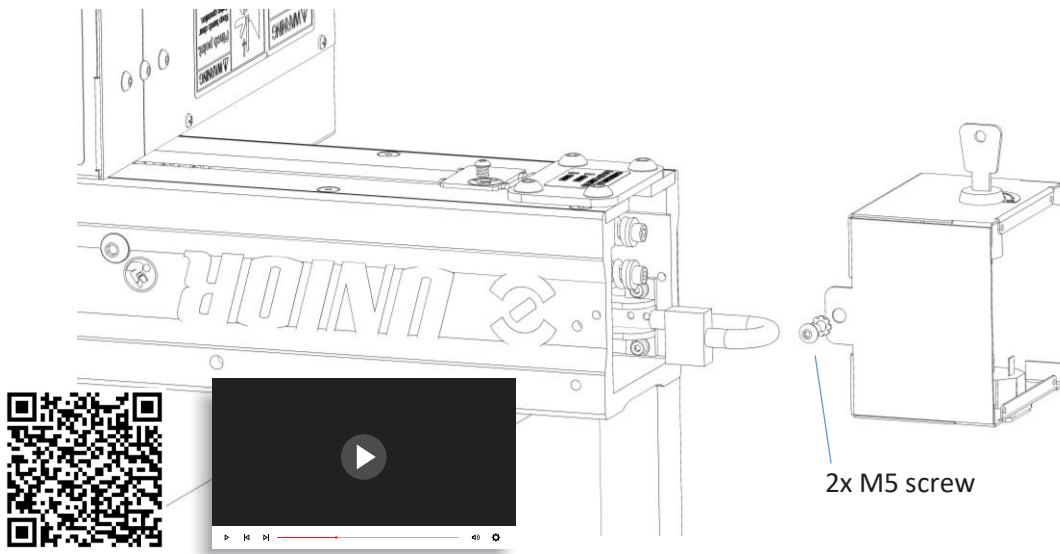
- b) If possible, first drive the rack support to the centre of the post. Remove the rack post from the base plate and place the rack post on a table (back side down). This task requires 2 people (one person holds the rack post and the other person unscrews the 8 M8 screws, then both persons place the rack post on the table together)



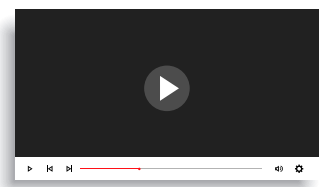
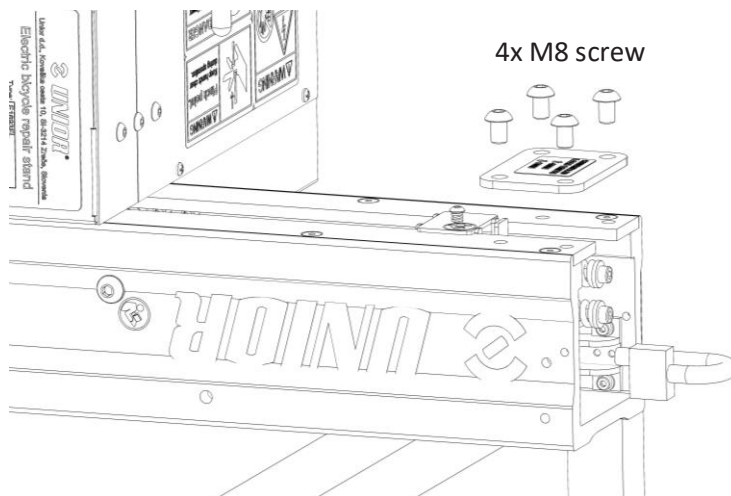
- c) Unscrew the electrical cabinet cover and disconnect the connectors inside the electrical cabinet. In the version 21 of the rack, only the connectors are in the cabinet, whereas in the older versions there is a board with connectors on it. Before disconnecting the connectors, mark them for easier reconnection.



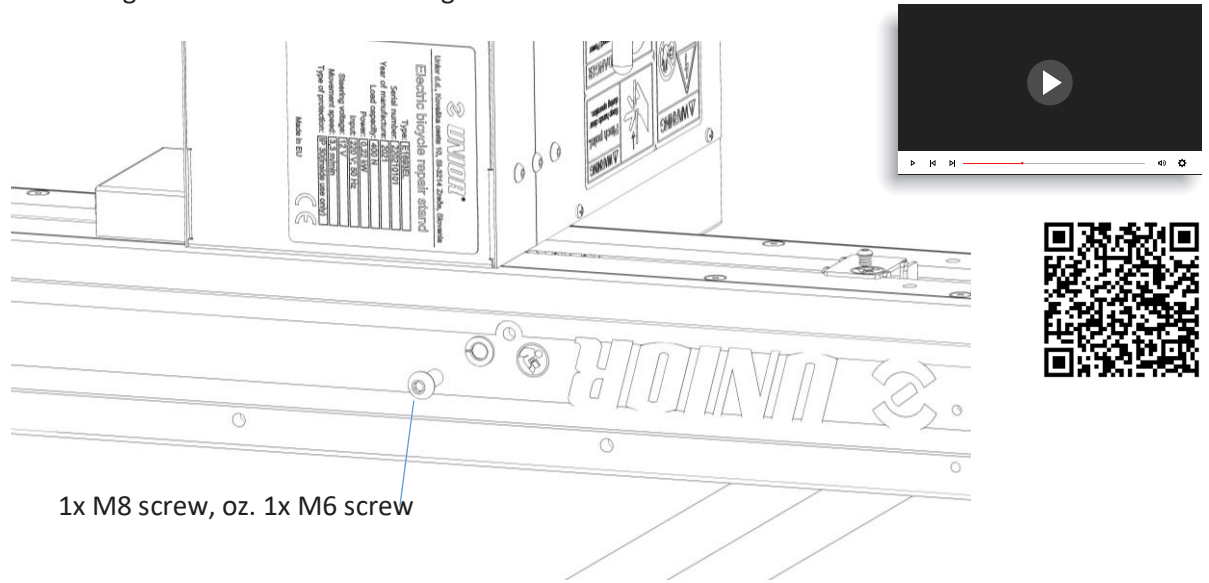
d) Unscrew the terminal box



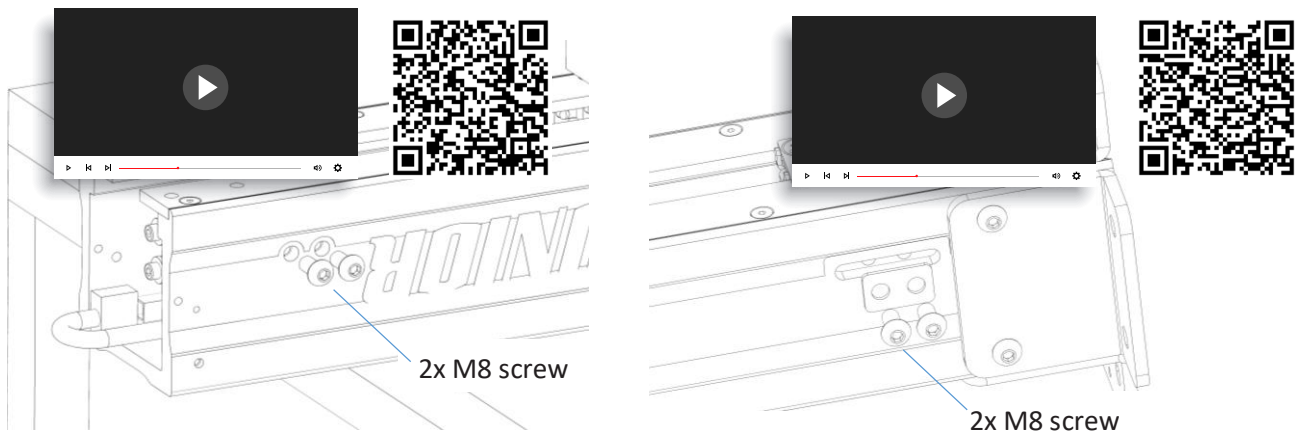
e) Unscrew the connecting plate



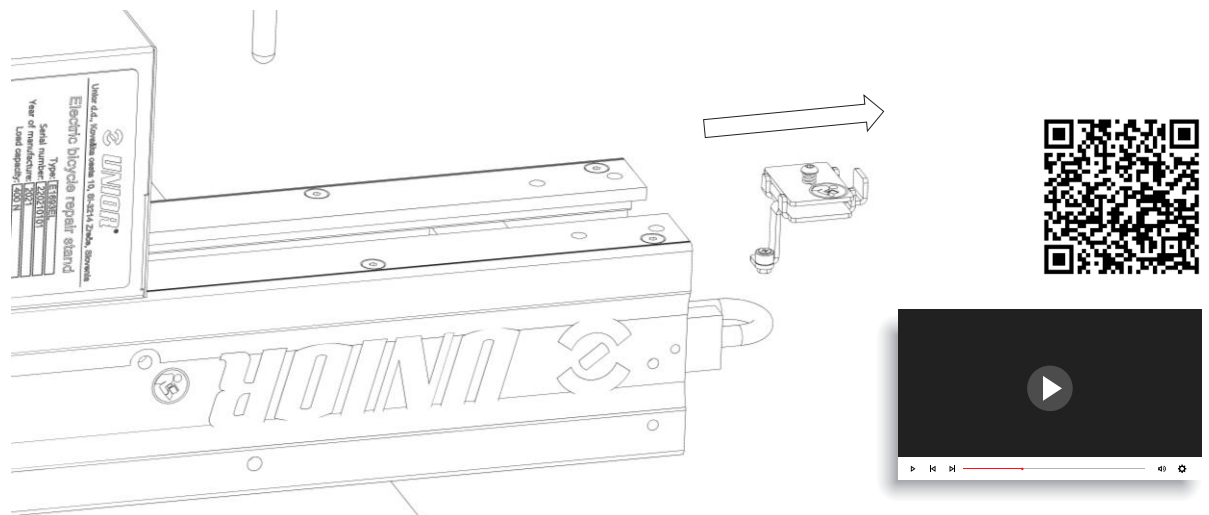
- f) Unscrew the upper safety screw (M8 for aluminium models, M6 for older racks). First, remove the sealing wax from the screw hexagon on the screw.



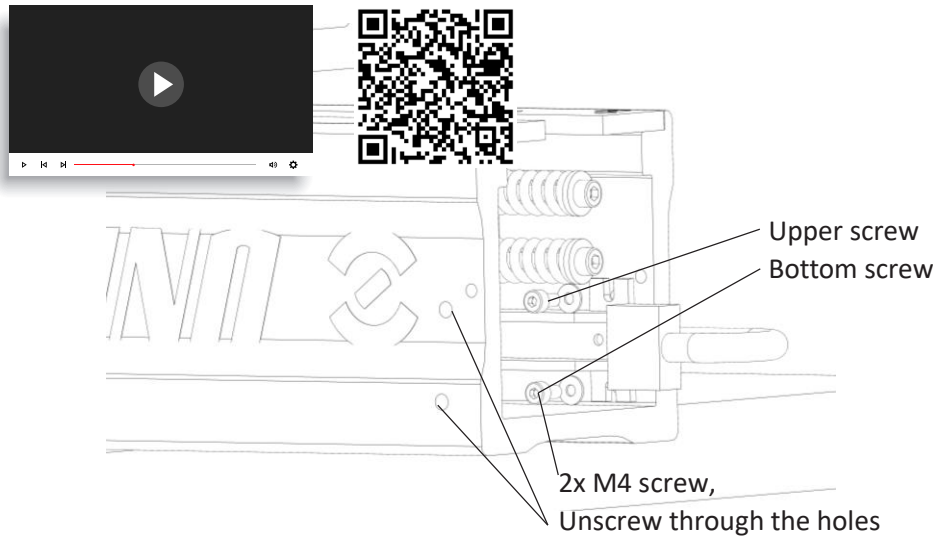
- g) Loosen the 4 M8 screws to release the drive chain:



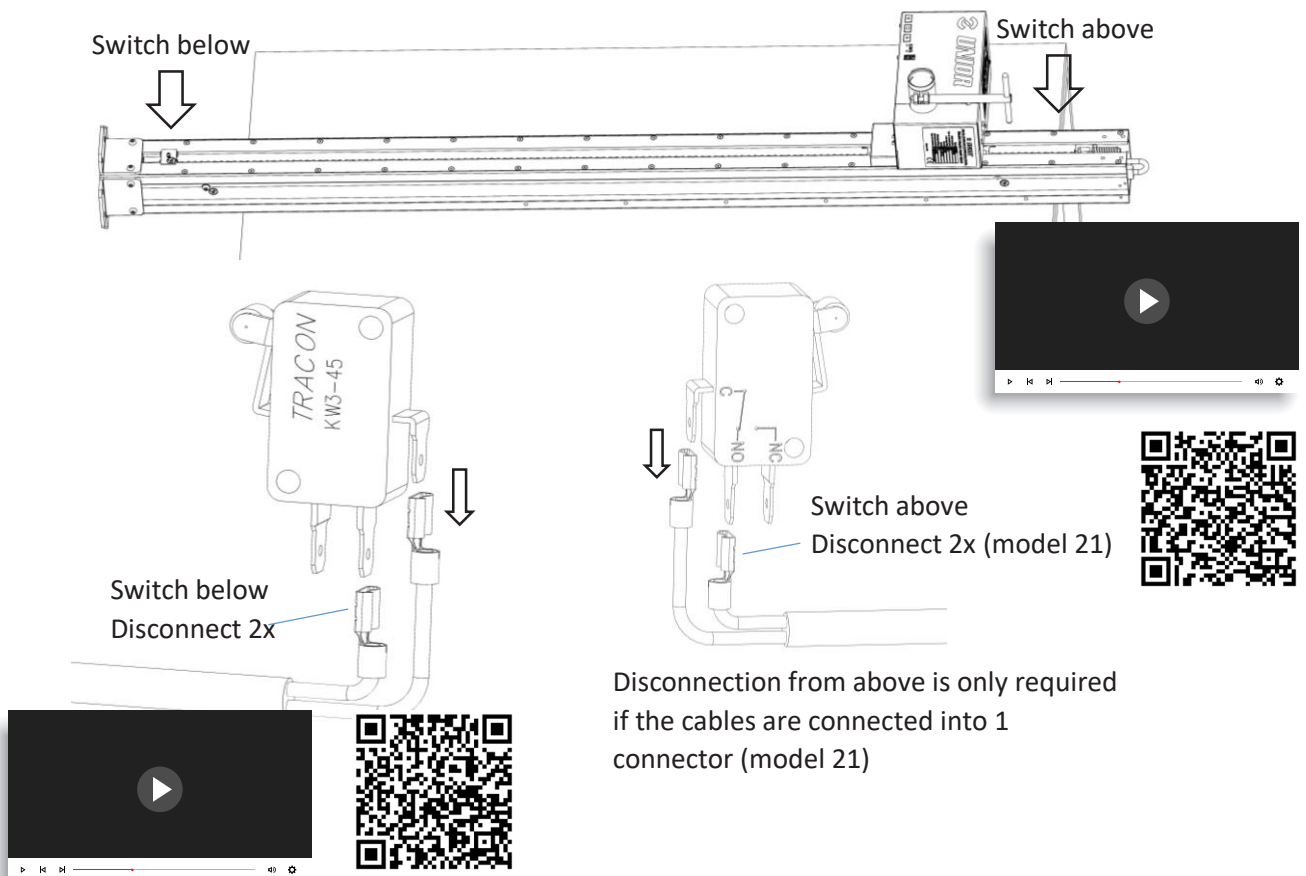
- h) Pull out the upper slide switch (without screwing!)



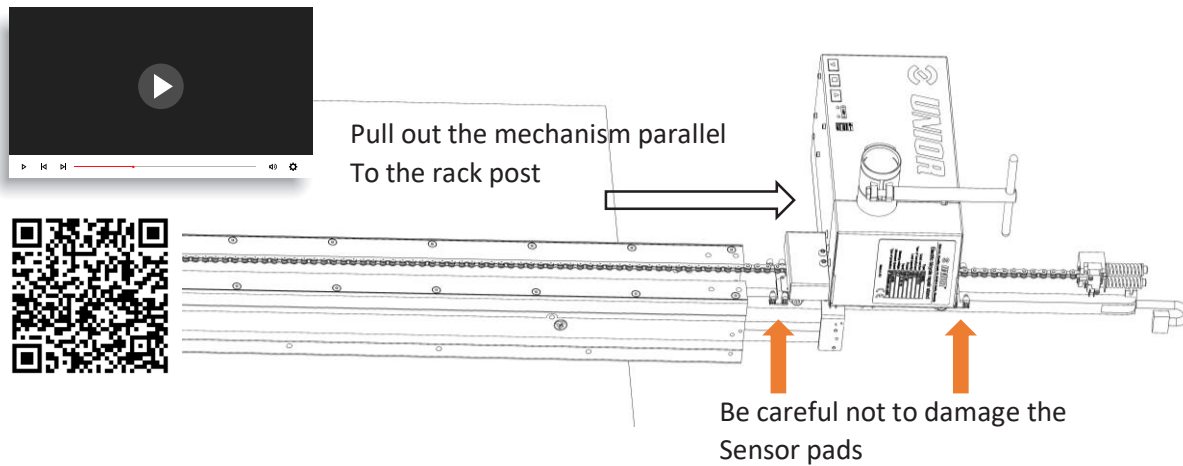
- i) Unscrew the clamping of the drive chain. Unscrew the upper screw completely, loosen the lower screw only so that the drive chain can be removed from the screw catch.



- j) Disconnecting the cables on the safety switch below and above. For older rack models, disconnecting the cables above is not required. Perform the described operation by moving the entire rack drive (including the drive chain and the two chain anchors) approx. 10 cm downward. This makes access to the lower anchor easy. Remove both cables and perform the same drive movement in the upward direction and simply remove both cables from above. Ensure that the cable can move properly inside the cable duct before moving the drive.

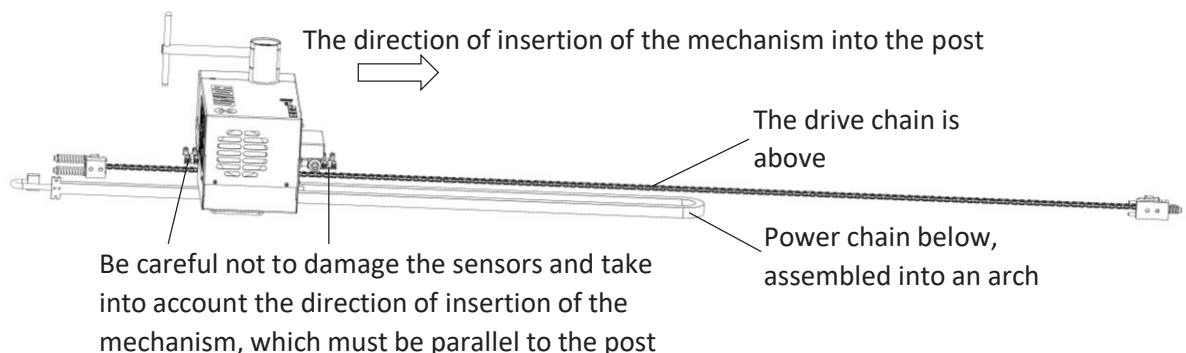


- k) This is followed by pulling out the entire rack mechanism. Care must be taken to extend the support upwards in the direction of the post parallel to the post so as not to damage the safety sensors. Also be careful that the drive chain does not get stuck against the lower anchor of the work chain. It is recommended that all three parts of the mechanism frame and the clamping bush are dismantled before the mechanism is pulled out, as described in chapters 3b and 2f.

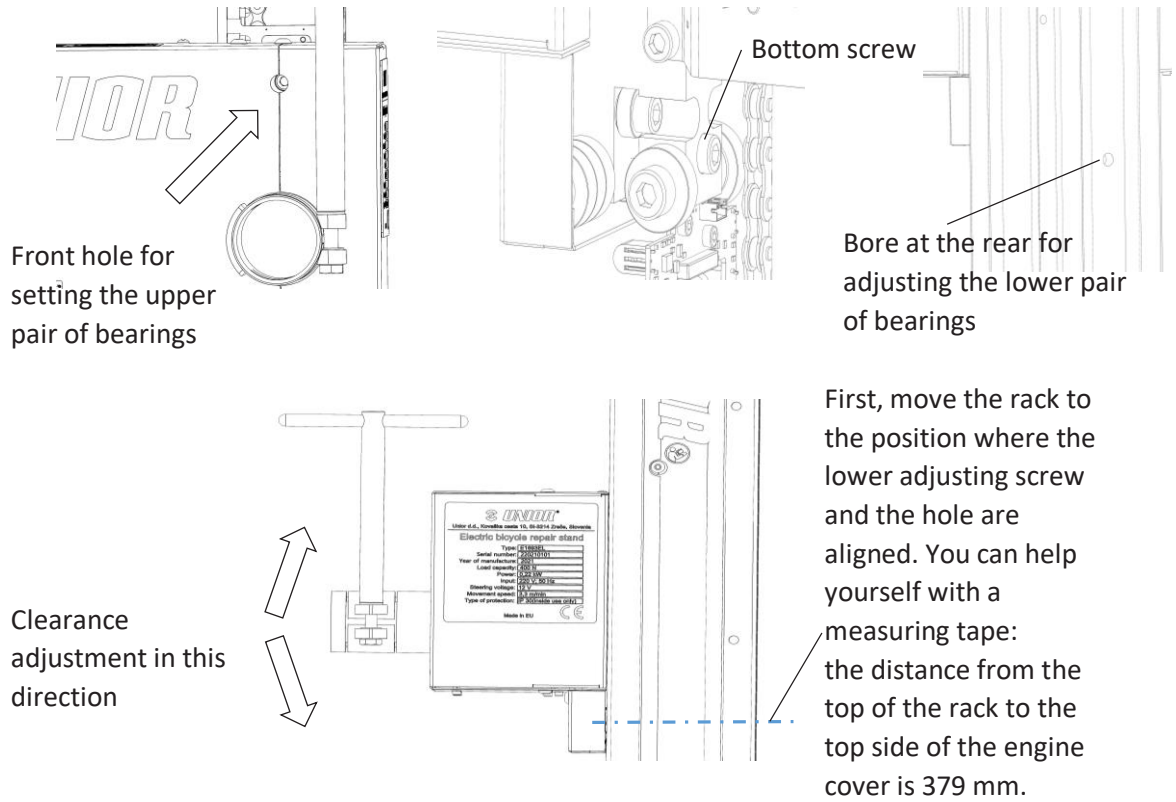


- l) Re-inserting the mechanism into the rack post (which is done once the replacement of parts on the rack mechanism has been completed). It is very important that all the screws that have been unscrewed are glued or secured against automatic unwinding before they are re-screwed. When re-inserting the mechanism into the rack post, the correct sequence of the drive chain that is all the way to the rear and the drive chain that runs between the support mechanism and the drive chain must be established.

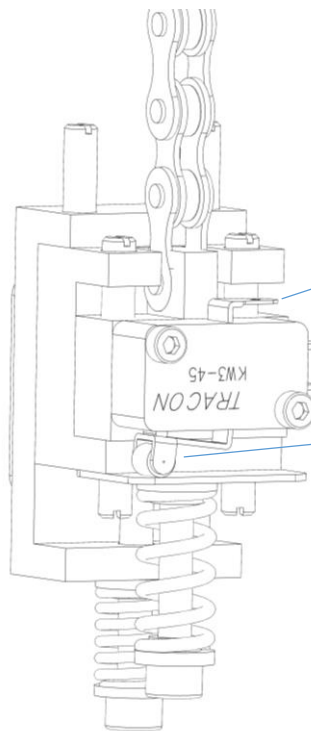
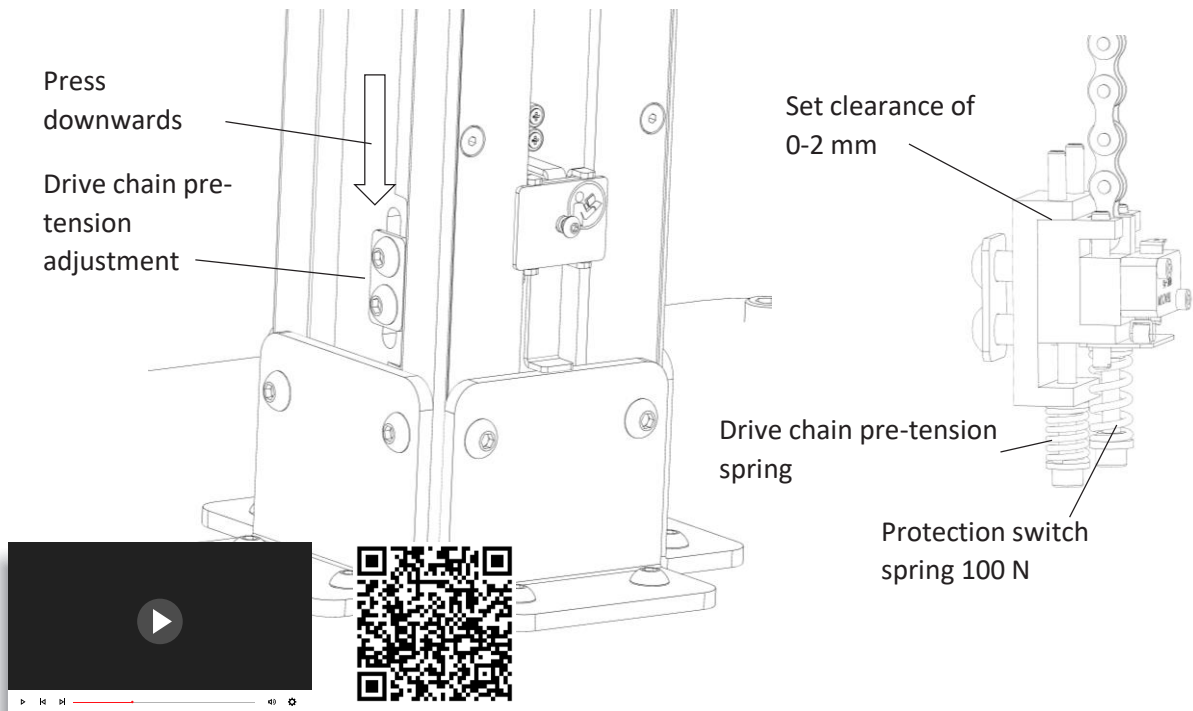
Both of these elements must be properly inserted into the post (the power chain is placed in an arc, as when the rack is being operated), after which the entire mechanism is inserted. The power chain and drive chain must be properly retracted in the post. Great care must be taken to insert the mechanism into the post in parallel so as not to damage the sensors shown in item k. The mechanism is always inserted in the direction of the post above towards the direction of the post below. The entire rack is then assembled in reverse order.



- m) when the rack is assembled so that it stands upright, it is necessary to adjust the clearance of the support guides, which takes place in two phases. The upper pair of bearings is screwed through the opening on the motor cover at the front, and the lower pair of bearings is screwed through the hole in the post at the rear. Properly set clearance is such that no free movement is felt in the up-and-down direction of rotation of the mechanism (shown in the figure below).

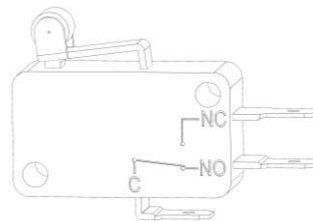


- n) the adjustment of the pre-tensioning of the drive chain is done so that the rack is upright or is screwed to the base plate. The entire rack must be assembled, both screws at the upper fastening of the drive chain are tightened (and also secured with glue against unscrewing). The rack should not be loaded (do not mount a bike on it). Tighten the 2 screws of the lower drive chain anchor so that their movement (together with the plate and the lower chain anchor) is still possible inside the elongated hole. Then, by pressing the plate with the screws downwards, reach the limit of toggling the switch, release the pressure to reconnect the switch, release it for another 1 mm and tighten both screws of the lower anchor of the drive chain. Also make this adjustment in the event of a fault when the lower switch remains toggled (as if the rack were pre-loaded in the downward direction, the so-called stick-slip effect). In this case, the rack does not function and the down signal light is flashing. Except that, in this case, we carry out the switch toggle a few times (pressing the plate down) before adjusting and tightening both screws.



With the right setting, the function of the switch is as follows:

- contact C,
- contact NO,
- contact NC (not in use),
- The measured value between C and NO is 0 Ohms (contacts C and NO are connected),
- The switch is activated,
- When a 100N overload occurs, the connection between C and NO is broken

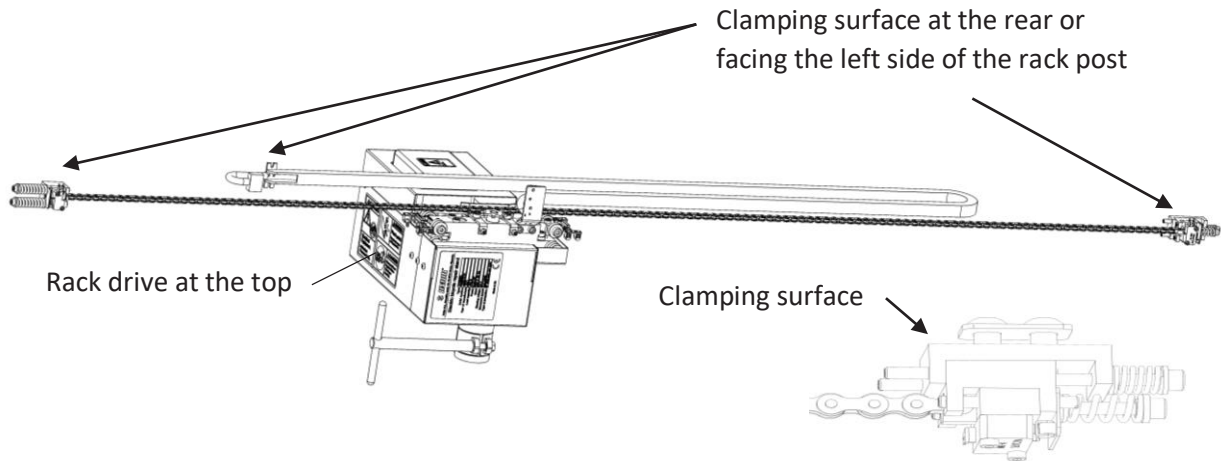


ERS-2 drive chain repair

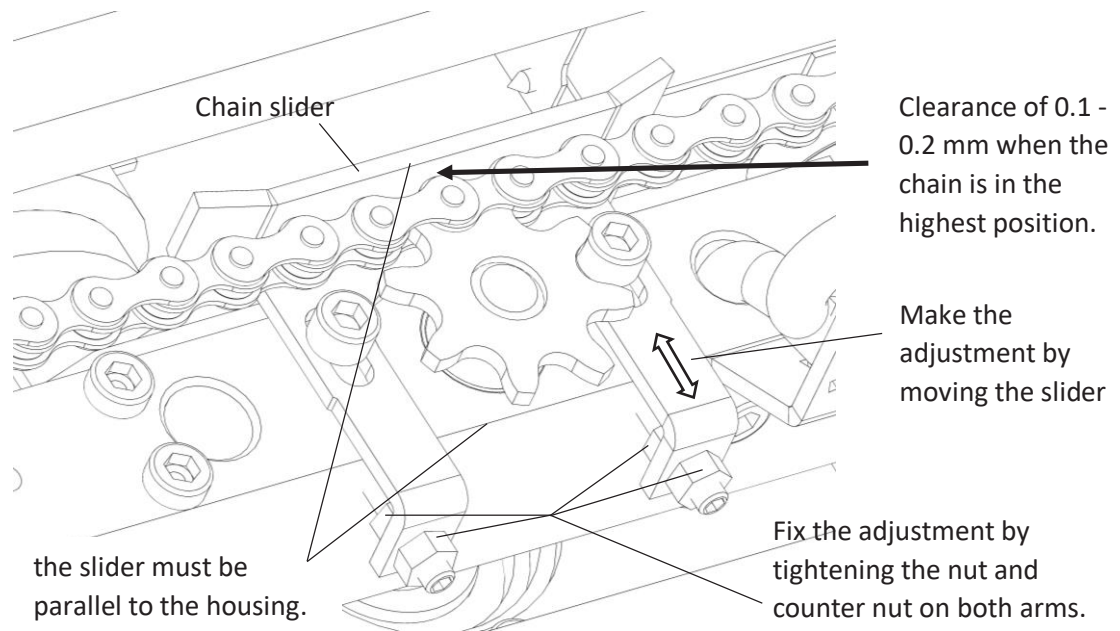
Disassembly and repair instructions:

2. Drive chain repair:

- a) The drive chain can be repaired when the entire drive of the rack has been dismantled



- b) The orientation of the upper and lower set of safety switches, as well as the power chain, must be carried out in such a way that the base or mounting surface is on the left side (possibility of screwing it into the left inner side of the rack post).
- c) Adjusting the clearance between the drive chain and the chain slider: to adjust the clearance, it is necessary to loosen the 2 M6 screws by the minimum amount (just enough so that the slider can be moved). Then screw or unscrew the 4 M5 nuts to achieve a clearance between the chain and the slider of 0.1 to 0.2 mm, which is measured with a 0.1 mm measuring sheet. When measuring, it is necessary to reach the top of the chain on the gear, which is achieved by slightly rotating the gear left and right. The easiest way to achieve this rotation is to rotate the wind turbine on the electric motor, which can be done with a screwdriver and through the cooling holes on the cover of the electric motor or by dismantling the cover and then rotating the wind turbine with your hand. While adjusting, it is also necessary to achieve the maximum possible parallelism of the slider with respect to the housing. All screws must be secured with glue against unscrewing. In case of wear, the slider must be replaced. If the chain is worn out in the part that slides on the slider (measured over the largest diameter of the chain link, which is measured by a movable scale), it is necessary to turn the chain so that the unused surfaces will slide or to replace the chain. Wear is assessed by comparing the dimensions of the worn links to those of unused ones at the beginning and end of the chain. If the difference is greater than 0.2 mm, it is necessary to perform the described inversion or to replace the chain if it has already been turned around once. After inserting the subassembly into the rack, lubricate the chain with grease on the inside (where the chain covers the gear) and the outside (where the chain slides on the slider).

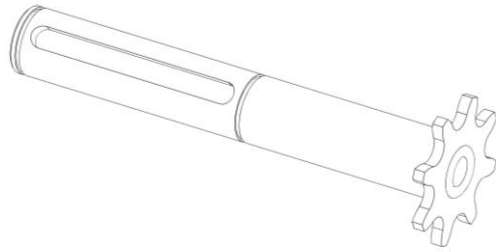


UNIOR spare part: Chain slider id.: 909682307

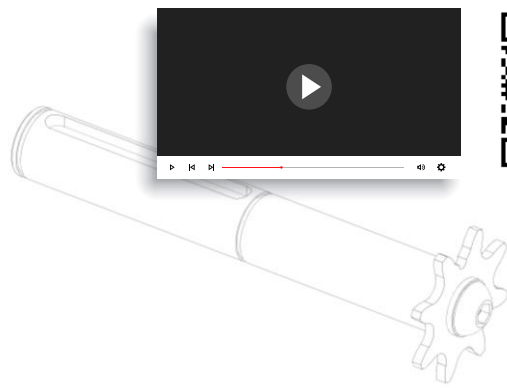
d) Changing the drive chain is one of the most demanding aspects of rack maintenance. The blocking of pieces during reassembly as well as adequate protection of all elements against automatic unscrewing is very important. This task should only be performed by a very experienced service technician who knows the operation of all mechanical rack systems, as well as the setup protocols described below. We recommend that you take a picture of the existing state before disassembling the safety switches and keep it for the purpose of obtaining information when reassembling. Also be careful of the possibility of spring impact when loosening the screws. When assembling, you can use the orientation description of the two safety switches in Figure 2a. If the drive chain is worn out only in the area where it is held by the chain slider, it can be turned around (so that the worn-out part is no longer in contact with the chain slider).

The spare part is listed at the end of the chapter.

e) Changing the sprocket: there are two models of drive shaft and sprocket assemblies. The older model is carried out in such a way that the shaft and sprocket assembly is welded. This assembly is arrested inside the gearbox by means of two external spring retaining rings. Disassemble the assembly by previously removing the retaining ring on the rear of the shaft, which is done with the Seeger pliers. Then unscrew the reducer together with the terminal board and pull it out of the shaft. Then dismantle another retaining ring, remove the dowel and pull the shaft out of the drive housing in the other direction. As a spare part, you will always use a newer shaft and sprocket assembly, which is assembled in such a way that the sprocket is screwed onto the shaft. After replacing the assembly with a newer one, the sprocket is replaced without dismantling the spring, as the sprocket will now be dismantled by unscrewing the screw.



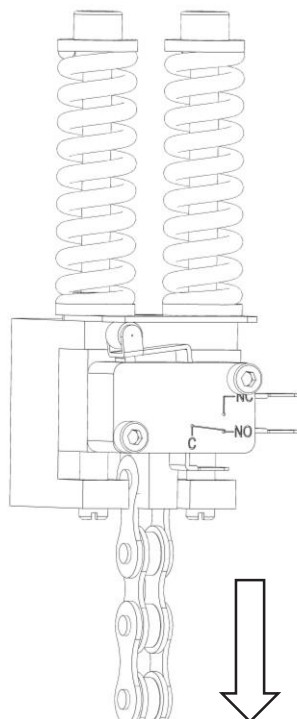
Drive shaft – old (welded) version
Unior ident: 909682310



Drive shaft – new (screwed) version
Unior ident: 909682310

Spare part: Sprocket (for the new implementation of the shaft assembly): 909682313

- f) Setting the upper safety chain anchor range of the drive chain: the upper safety switch protects the rack against overload and is set to a maximum permissible load of 400N. However, since the load is measured in dynamic conditions, it is set to 670N as a result. The adjustment is achieved by tightening both springs (we count the revolutions from the initial state – to the tightened state when there is no clearance left between the screw and the spring) until the switch toggles at a load of 670N. Before tightening, we need to glue the screws or protect them against automatic unwinding. The toggling of the switch can be checked audibly (there will be a click) or we can connect an ohmmeter or another switching control device to it (e.g. light circuit). To measure the force, use a dedicated measuring device or use a weight (in this case you need to suspend the anchor).

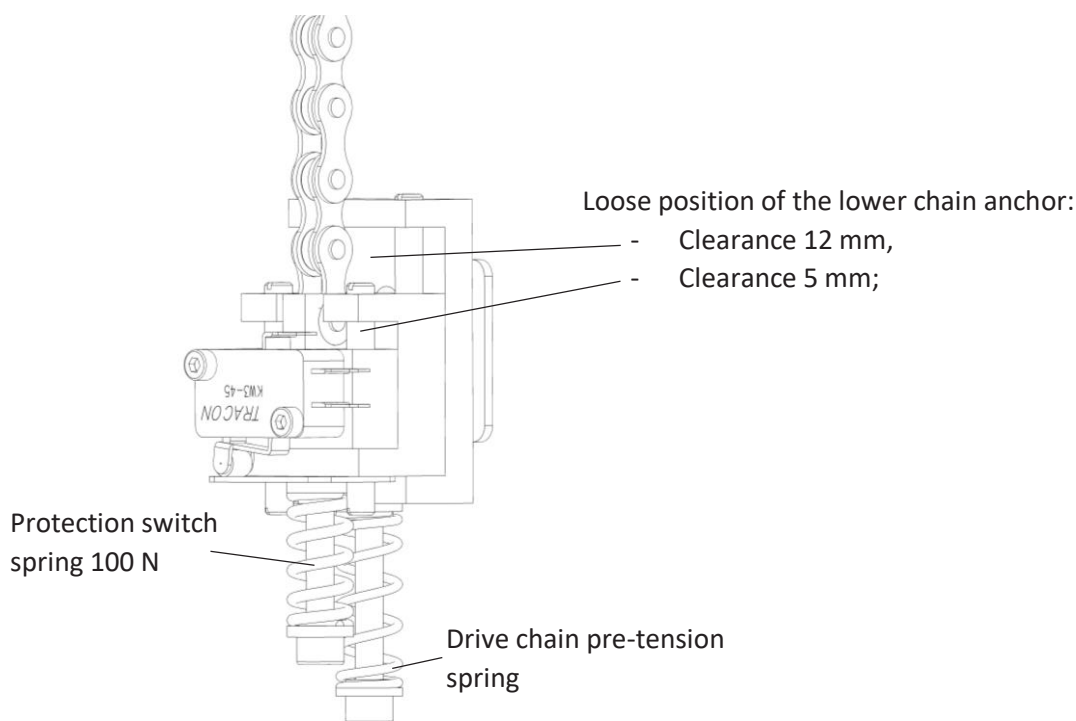


Make sure that both springs are loaded evenly, which is achieved by counting the revolutions from the initial state when screws are tightened from the initial state (without clearance between the screw and the spring).

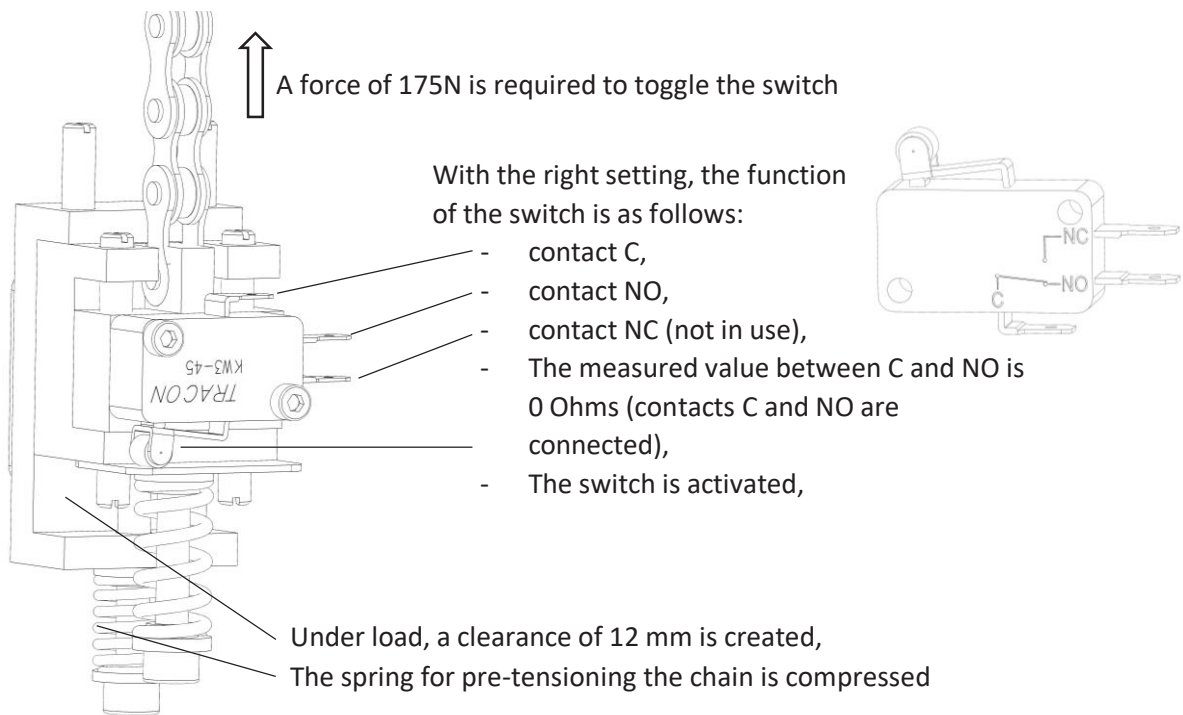
During normal operation, the switch is activated, which means that the C + NO contacts are touching each other. When overload is reached, the C+NO connection is disconnected and the C+NC contacts are connected.

A force of 670N is required to toggle the switch.

- g) Setting the lower safety chain anchor range of the drive chain: the lower safety switch protects the rack or the clamped bike against collision damage in the downward direction and is set to a maximum permissible load of 100N. However, since the load is measured in dynamic conditions, it is set to 175N as a result. At the same time, the lower safety anchor maintains the corresponding pre-tension of the free part of the drive chain.



The adjustment of the drive chain pre-tensioning spring is carried out by tightening the screw of this spring so that there is no more clearance between the anchor housing, the washers and the spring. The adjustment of the safety switching spring 100N is adjusted by loading the anchor by pulling the chain with 175N. In doing so, the pre-tensioning spring of the drive chain is compressed all the way. By adjusting or by tightening the screw of the toggle spring, we achieve the condition that at a load of 175N the switch will be toggled, which can be controlled either audibly (there is a click) or with an ohmmeter or another switching control device (e.g. light circuit). To measure the force, use a dedicated measuring device or use a weight (in this case you need to suspend the anchor). All screws must be protected with glue against automatic unscrewing.



Spare parts:

Chain RK 081 length of 141 links (1.8 m) DIN 8187-1, UNIOR code 3645536,

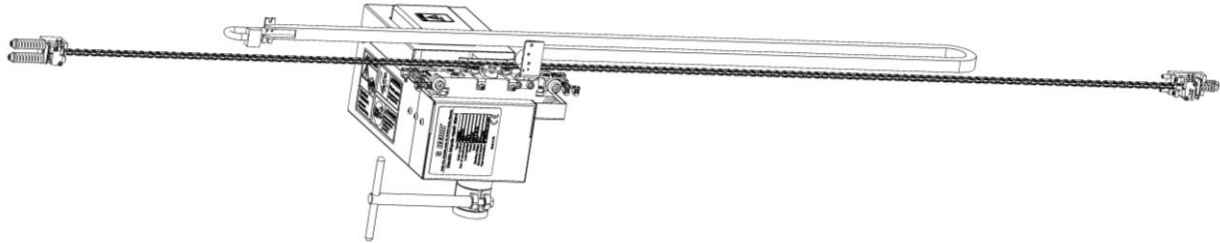
End overload switch, UNIOR code: 509682936

ERS-3 changing parts that are deepest in the assembly

Disassembly and repair instructions:

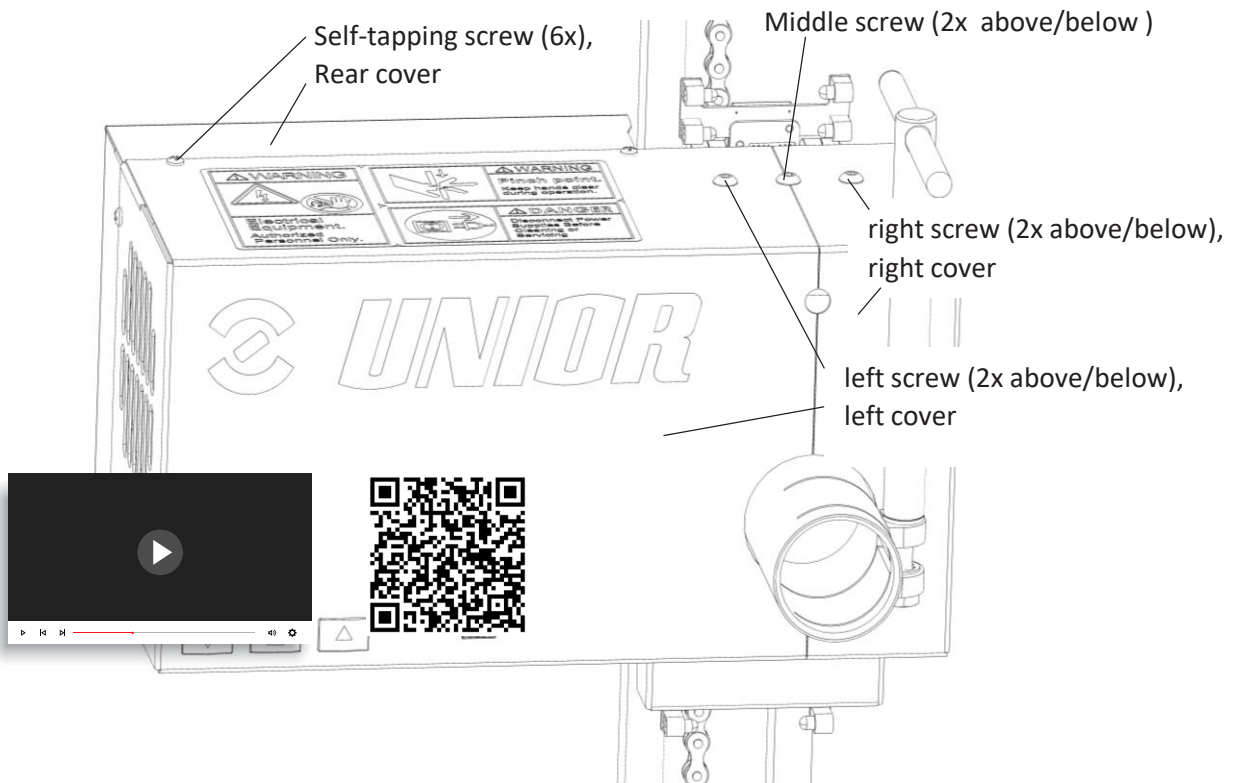
3. Changing parts that are deepest in the assembly: Very important: take care not to damage the sensors at all times.

a) it needs to be carried out when the entire rack drive is dismantled.

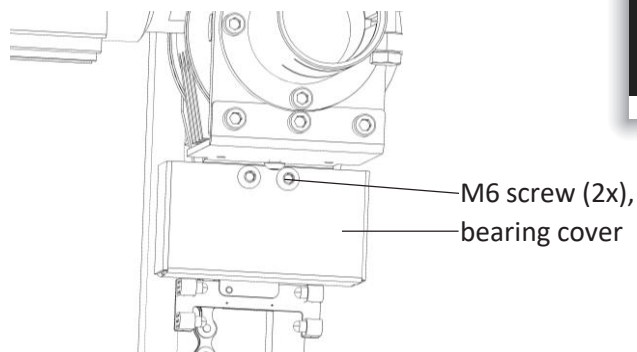


b) In addition, it is necessary to dismantle 3 parts of the rack drive frame, namely:

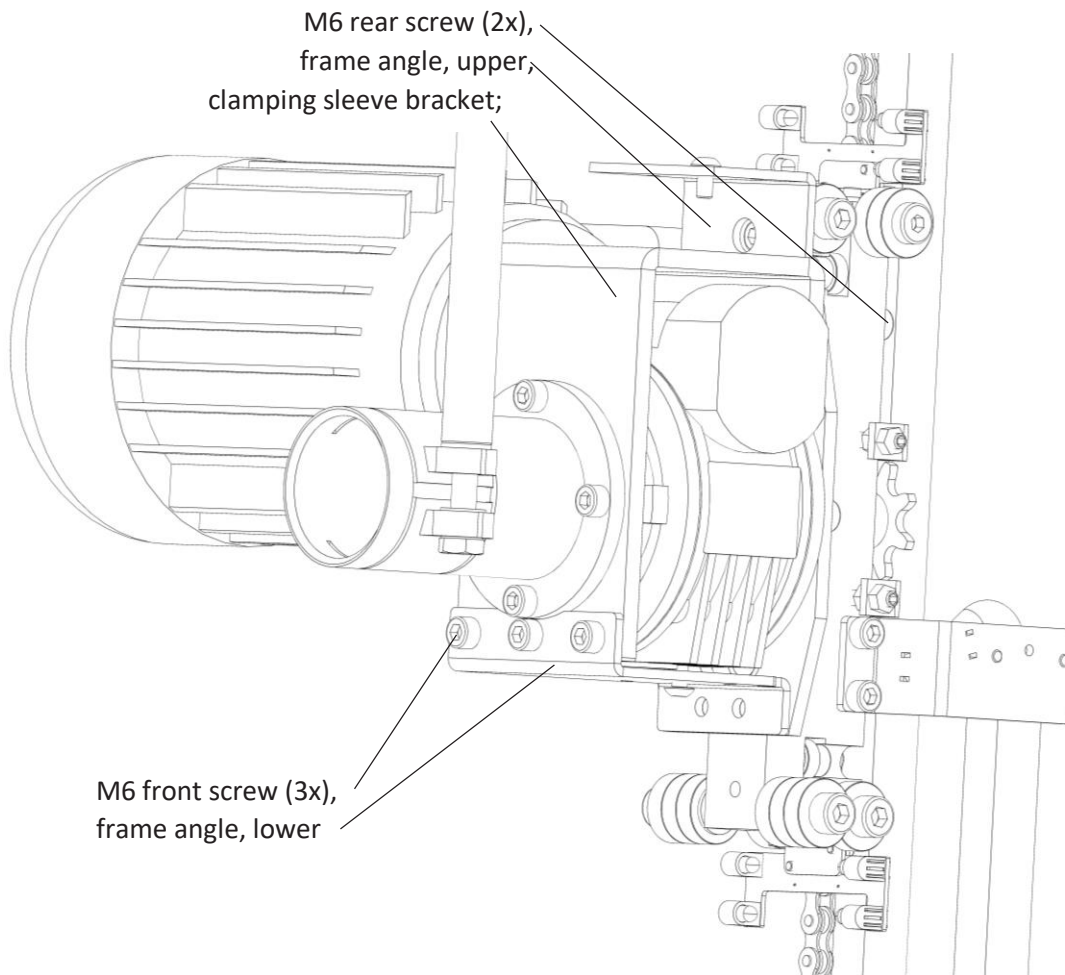
1. Remove the rear cover, loosen the 6 self-tapping screws, remove the rear cover.
2. Remove the left and right motor frame, unscrew 2 left and 2 M4 right screws and just loosen the two screws in the middle or unscrew them by approx. 2 turns.



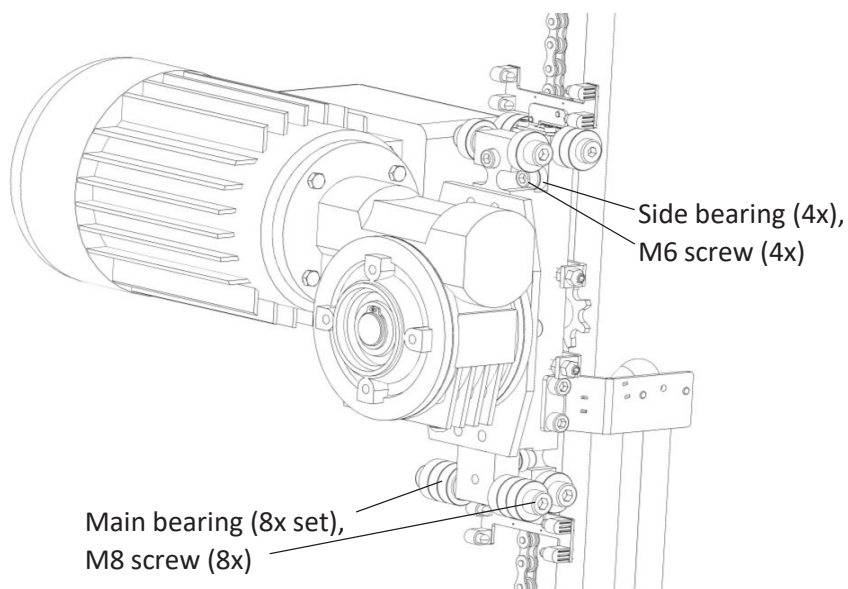
3. Remove the bearing cover, loosen the 2 M6 screws



4. Dismantle the clamping sleeve bracket, loosen the 3 M6 screws at the front and the 2 M6 screws at the rear. Remove the clamping sleeve bracket, the upper frame angle and the lower frame angle. It is not necessary to dismantle this bracket if you intend to replace only one of the main bearings or any of the lower side bearings. To dismantle the upper side bearings, this dismantling phase of the bracket is required.

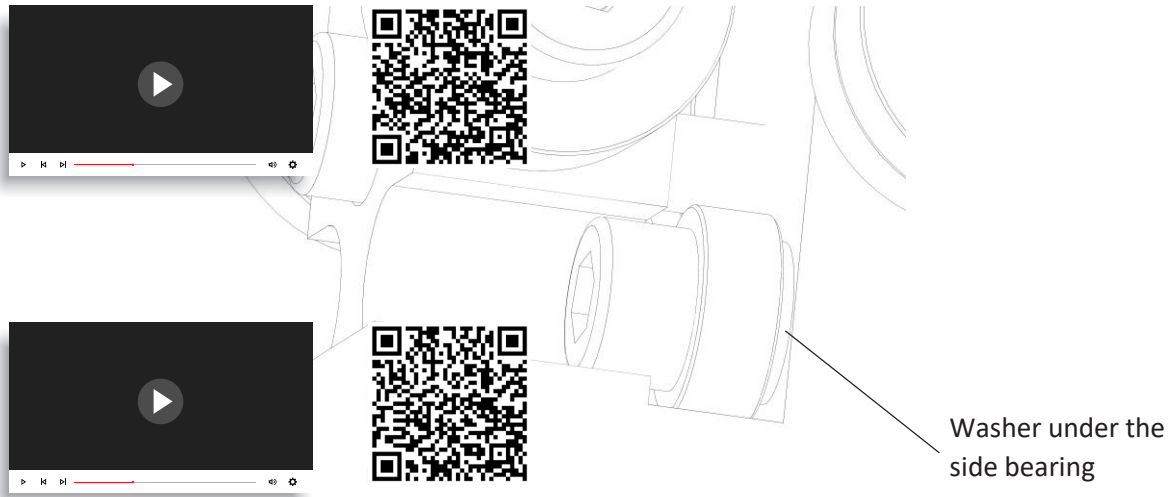


Baseline situation for changing all parts of the mechanism:



- c) Replacing the side bearings: unscrew the defective side bearing (M6 screw) and lubricate the screw thread with adhesive to prevent self-loosening before reassembling, make sure that there is a washer between the bearing and the housing. There are 4 side bearings. Each mounted bearing must rotate freely.

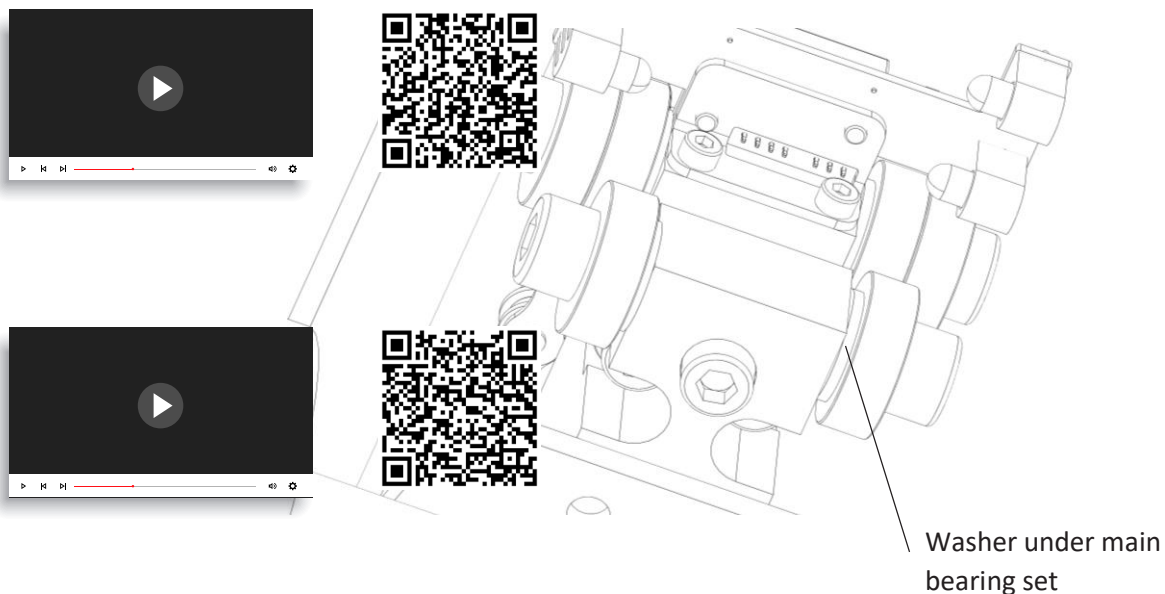
Spare part: Ball bearing, closed, 686-2z, DIN 625, UNIOR code 3325776



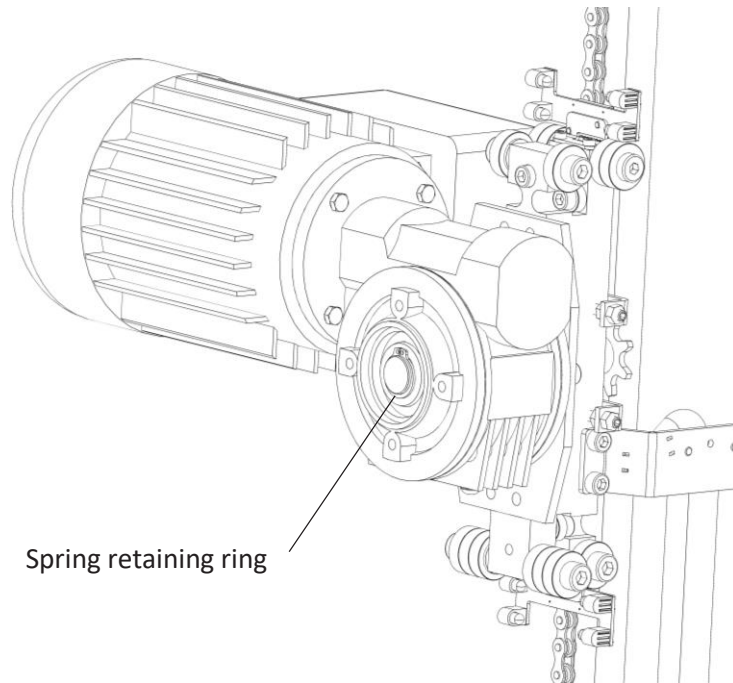
- d) Replacing the main bearings: unscrew the defective main bearing (M6 screw) and lubricate the screw thread with adhesive to prevent self-loosening before reassembling, make sure that there is a washer between the bearing and the housing. Each mounted bearing must rotate freely. There are 8 sets of main bearings (14 bearings in total). Sets are formed as follows:

Above – front: 2x 1 bearing
Above – rear: 2x 2 bearings
Below – front: 2x 3 bearings
Below – rear: 2x 1 bearing

Spare part: Ball bearing, closed, 608-2z, DIN 625, UNIOR code 3329492

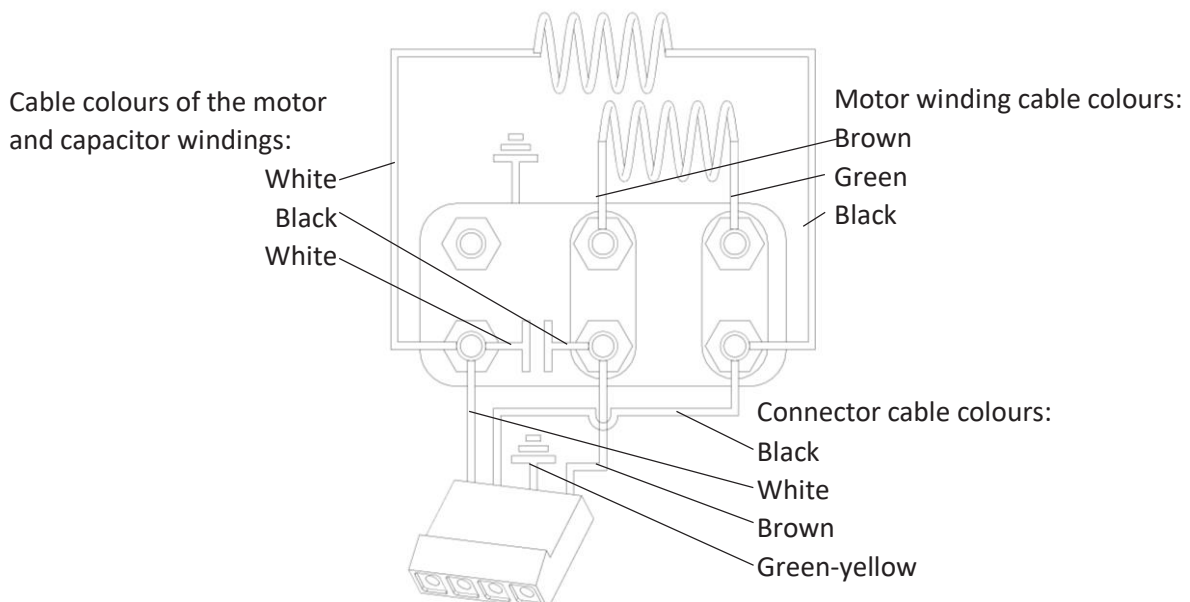


- e) Replacing the reduction gear: remove the spring retaining ring and pull out the reduction gear with the motor from the axle. Before pulling out, it is necessary to pull in the main cable and the sensor cable, which are routed through the holes of the terminal board, which is still screwed on the reducer at this stage. Loosen the 4 M6 screws and remove the terminal board. Loosen the 4 M4 screws and remove the electric motor. When reassembling, it is not necessary to glue or protect the screws against automatic unwinding. Make sure that the dowels on the axle and on the shaft of the electric motor are inserted correctly. Make sure that the electric motor rotates correctly. The electrical cabinet must be located on the back of the rack, as shown in the drawing below.



Spare part: Worm reduction gear VF44 P0 46 P63 B14 B3, Bonfiglioli Italy, UNIOR code: 3645318

- f) Connecting the electric motor: loosen the 4 self-tapping screws on the electric motor box, pull the connecting cable through the clamp on the terminal box and fix the cable with the clamp. Have a professional (electrician) connect the cables to the terminals of the electric motor. Attention: since the operation of the rack is performed by alternately changing the direction of rotation of the electric motor, it is necessary to change the basic (factory) connection of the capacitor or the direction of the plates via terminals on the terminals of the electric motor, as shown in the figure below. The motor must be connected by a professionally qualified person (electrician).



Spare parts: 1. Motor cable C03 ident. UNIOR: 509682924,

2. Electric motor Nerimotri Italy, M63D4 B14 0,22kW 220V 50Hz + ABS, UNIOR code: 3418774 (model E),

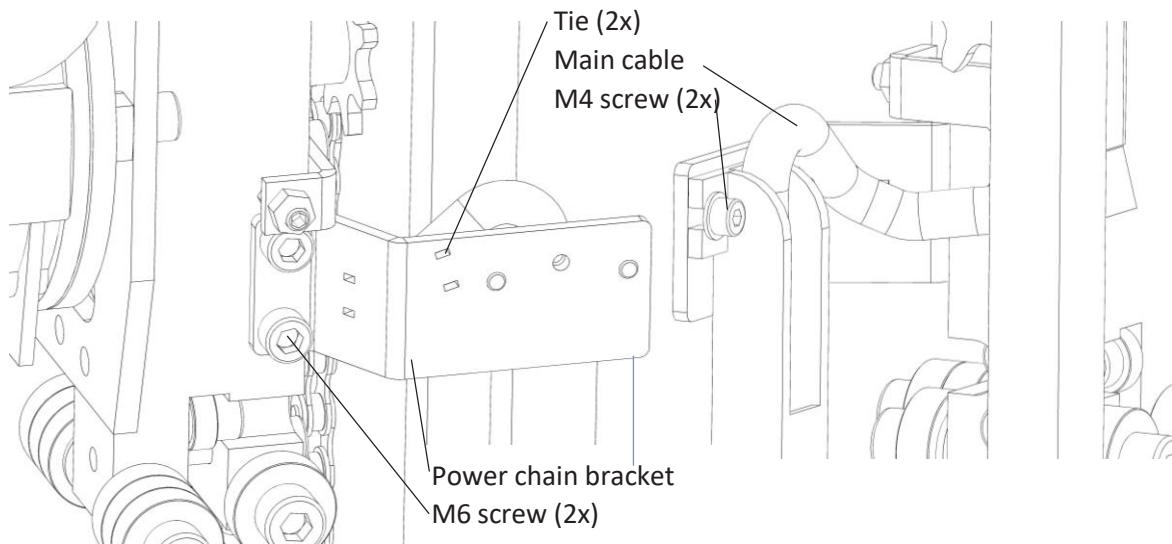
3. Electric motor Nerimotri Italy, M63D4 B14 0,22kW 110V 60Hz + ABS, UNIOR code: 3418773 (model A);

g) Replacing the power chain bracket: if the power chain bracket is damaged, it must be replaced. Damage can occur if the requirements for mounting the accessories on the rack are not observed. Unscrew the 2 M6 screws to separate the bracket and the housing, unscrew the 2 M4 screws to separate the bracket and the power chain, undo the 2 ties and thus separate the bracket and the main cable. When reassembling, protect all 4 screws with glue to prevent them from unscrewing automatically. Use 2 new ties with a cross-section of 2.6 x 1.4 mm, approx. 80 mm in length, and fix the cable and the console.

Spare parts:

1. Power chain bracket id. UNIOR 909682305,

2. PVC tie black VTO13-100 2pcs ident. UNIOR: 3411712

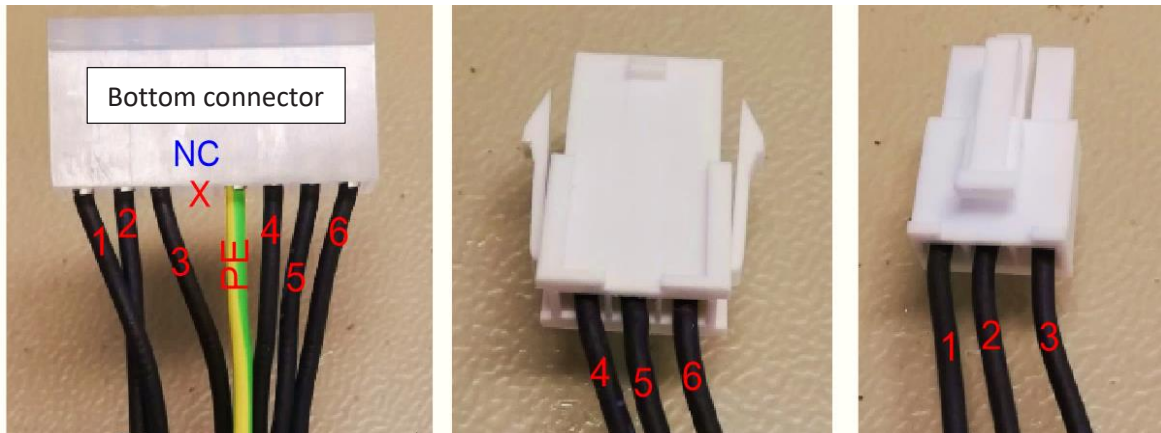


h) Replacing the main cable of the rack or replacing the power chain: pull out the main cable by first cutting the 2 ties as described when replacing the power chain bracket and then pull the contact pins out of the connector below (disassemble the connector). Then unplug the main cable from the drive housing and from the power circuit. Assess if the power chain is still suitable for further use. The suitability criterion of the power chain is that all the links are undamaged and that they do not dismantle on their own if the power chain is folded along its entire length. If you notice any wear or damage to the power chain, replace it. Install the new main cable of the rack by first bundling the wires for the lower connector with adhesive tape, otherwise it will not be possible to push the cable through the power chain and through the drive housing. The spare cable does not have a mounted lower connector so that the installation is possible at all. Measure and mark the length of 0.5 m at the section of the cable that does not have a connector. Then pull the cable through the power chain and through the hole in the housing so that the 0.5 m mark is in the area where the cable is fixed with 2 ties to the bracket. Then assemble the lower connector on the main cable as shown in the drawing below. The connector should be assembled by a qualified person.

Spare parts:

1. Main cable, 7-core C01, ident. UNIOR: 509682923
2. PVC tie black VTO13-100 2pcs ident. UNIOR: 3411712
3. Power chain Brevetti Italy SR20012018, length 2m + clamping set AN20012K, ident. UNIOR: 3418808 + 3418809

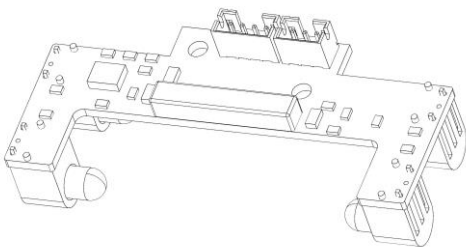
figure below shows the composition of the main cable of the rack. The cables are marked with numbers and it is shown where each cable number belongs on the connector below and on both connectors above.



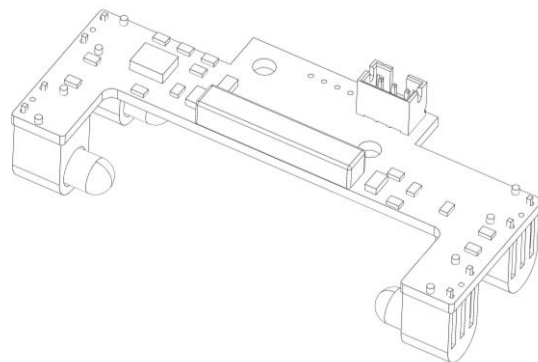
l) replacement of safety sensors:

Spare parts:

1. IR+Reed sensor module, upper: UNIOR code: 509682933,
2. IR+Reed sensor module, lower: UNIOR code: 509682934,
3. Cable for connecting IR+Reed sensors to the C08 controller (4-pin), UNIOR code: 509682930,
4. Cable for connecting two IR+Reed circuits C09 (3-pin), UNIOR code: 509682931;
5. PVC tie black VTO13-100 3pcs ident. UNIOR: 3411712,



IR+Reed sensor module, upper,
has 2 connectors



IR+Reed sensor module, lower,
has 1 connector

To replace the IR+Reed sensors, first cut off the 3 ties that protect the cables from damage that would occur if the cable became entangled between the rotating parts of the drive. Then unscrew the 2 M3 screws on the plate below and above, disconnect the connectors or cables from the bottom plate (1 connector) and from the top plate (2 connectors). Then pull the cable out of the hole in the drive housing. When reassembling, the screws must be protected with glue against uncontrolled unscrewing. Connect the cables with ties as they were connected before disassembly.

ERS-4 replacement of parts without dismantling the drive from the post

Electric bike rack ID: 628687, 628790, 628789, 628742, Art. 1693EL, EL.1, EL-110, EL.1-110;

Disassembly and repair instructions:

4. Replacement of parts without dismantling the drive from the post:

- a) Replacing a set of two cables for CO2 overload switches.

Spare part: Set of two cables for CO2 overload switches, UNIOR code: 509682924

When the rack is laid down with its back side against the table as shown in point 1b, disassemble the electrical cabinet above as described in items 1c and 1d. Disconnect the cable set connector and disconnect 2x 2 cables for the overload switches as shown in item 1j. Use long nose pliers. Then align the cable loop at the bottom to allow detachment from the cable duct. Then pull the cable set upwards and replace the cable set with a new one. See item 1j for instructions on how to connect cables to switches. Check that the cable duct is closed along its entire length and close it in the event that it isn't.

- b) Replacing the fuse:

When the rack is in an upright position, first unplug the power cord from the outlet. The fuse is located under the socket for the connector of the connecting cable on the electrical cabinet of the rack above, on the back side. Using a small screwdriver, pull the fuse box straight back, replace the defective fuse and close the drawer. The fuse for the model E of the rack is 220V 2A, and 110V 6.3A for the model A.

Spare part: Fuse 5x20, 2A (220V), UNIOR code 509682913 for model E or Fuse 5x20, 4A (110V), code 50682914 for model A rack.

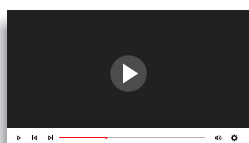
- c) Replacing the electric motor or motor cable:

When the rack is in an upright position, first unplug the power cord from the outlet. Unscrew the rear cover and then the front left drive cover as shown in item 3b. Disconnect the motor cable connector from the controller, unscrew the motor cabinet cover and unscrew all 4 terminals of the motor cable. Replace the cable with a new one and connect it to the motor terminals as shown in item 3f. The connection of the electric motor should be made by a professionally qualified electrician. If the electric motor needs to be replaced, loosen the 4 M4 screws and remove the electric motor from the reduction gear. Replace the motor with a new one and carry out the connection as described above. Make sure that the dowel on the electric motor shaft is properly inserted into the groove in the reduction gear. Make sure that the electrical cabinet of the electric motor is at the rear, as shown in the figure under item 4e.

Spare parts: described in item 3f.

- d) Replacing the controller, ON-LINE diagnostics:

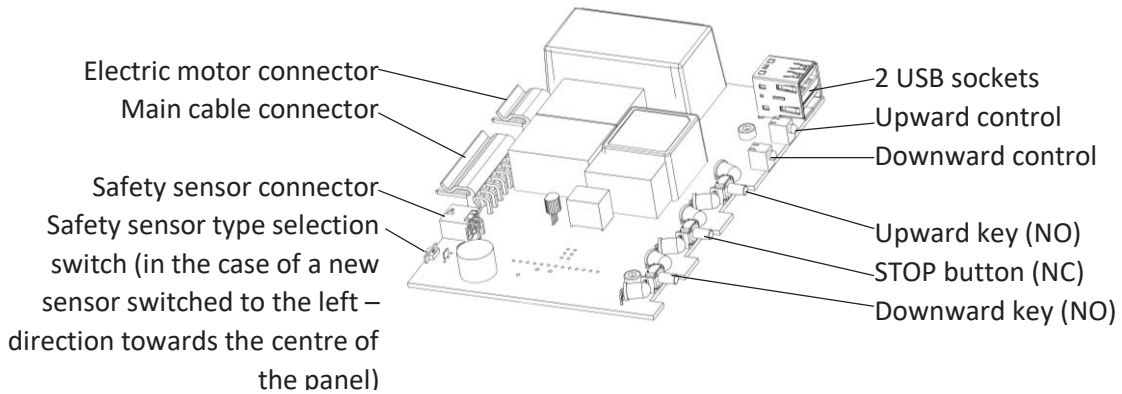
The rack is in an upright position; first unplug the power cord from the outlet. Remove the rear cover as shown in the drawing under item 3b. Disconnect all 3 connectors from the controller. Loosen the 4 M3 screws on the left drive cover on the bottom side. Replace the controller with a new one. **WARNING!** After changing the controller, it is necessary to perform an authorization, the procedure of which is described in Annex A – test start-up protocol (Simbinet). Authorization can also be carried out remotely with the help of an expert from Unior. In this case, it is necessary to connect the rack to the internet, which is done using the included USB cable. Plug the included USB cable with one end into the upper USB socket on the front cover of the drive and the other end into your computer, which must be connected to the internet. Get in contact with our expert and follow his instructions or let him carry out



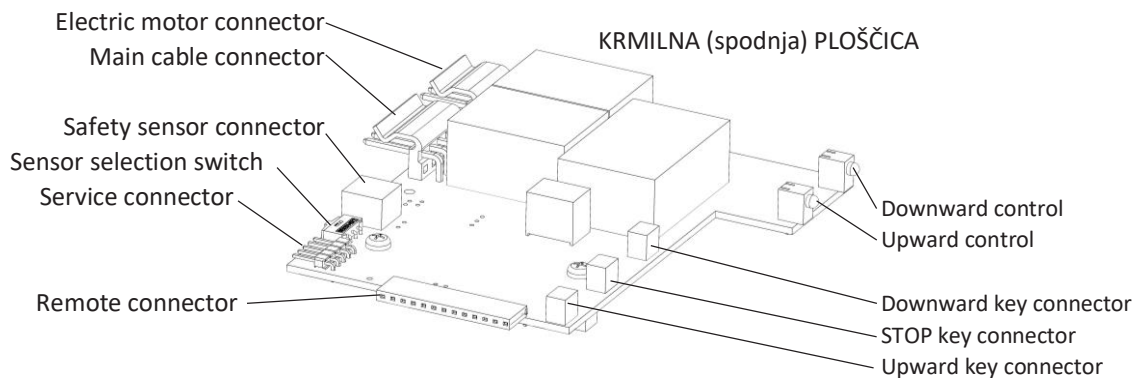
the authorization for you using the ON-LINE system. The contact person must speak English or Slovene. As described above, ON-LINE diagnostics are also carried out.

There are 2 controller systems, namely:

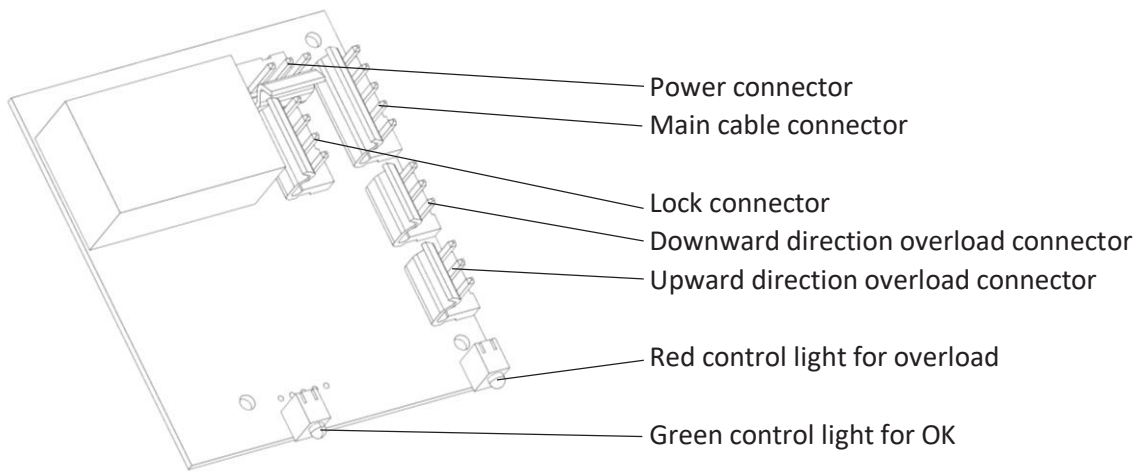
1. model 21 (it is a single plate or controller, which is located in the drive housing and is supplied by a 7-core cable from the electrical cabinet above). The control buttons are integrated on the control panel.



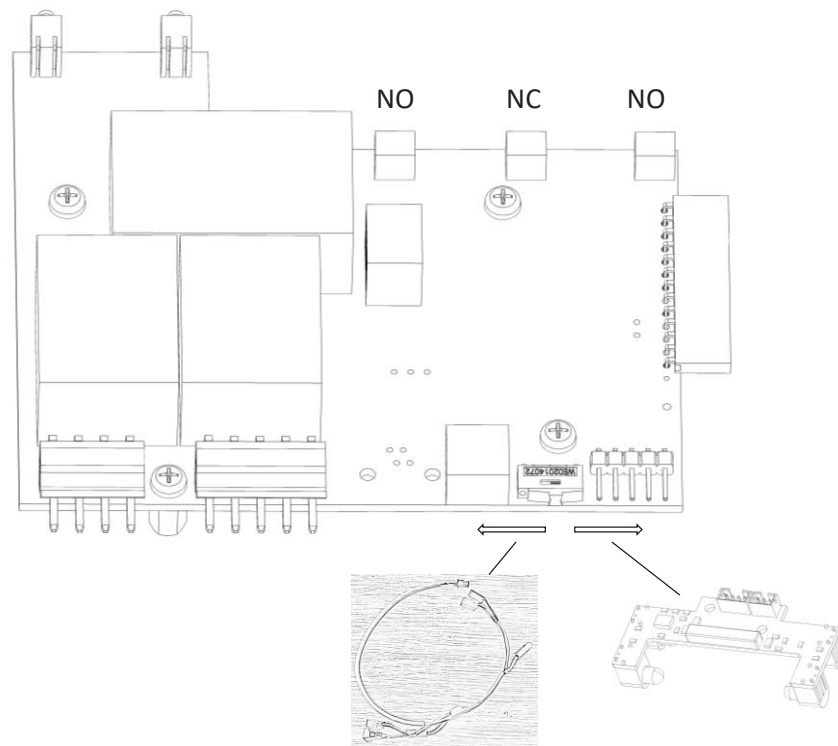
2. Model Hybrid (2 plates). One plate (for power supply) is in the electrical cabinet above and from it a 5-core cable goes into the drive frame below to the control plate. There is no need to perform authorization with this system and the connection to ON-LINE help is not possible. In the event of a fault in system controls, contact a specialist from Unior. In the model Hybrid, the control buttons are individual and independently installed in the left housing, they are connected to the controller by cables and connectors. If your rack has built-in plates with the word Bilcom on them, contact Unior and we will send you new plates for powering and controlling the rack.



POWER SUPPLY (upper) PLATE



- e) Replacing old type sensors: old type sensors are replaced with new type sensors. The procedure for integrating new type sensors is described in item 1i. Unscrew the old sensor (2x2 M3 screws) and undo the ties, then pull the sensor cable out of the housing. The toggle switch on the control panel is switched to the left (towards the middle of the circuit) for the operation of the old sensor and to the right (towards the edge of the circuit) (looking at the control panel from the rear).

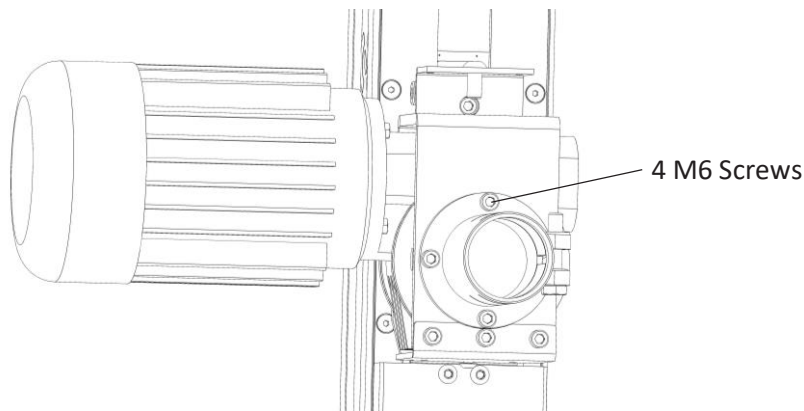


Spare parts:

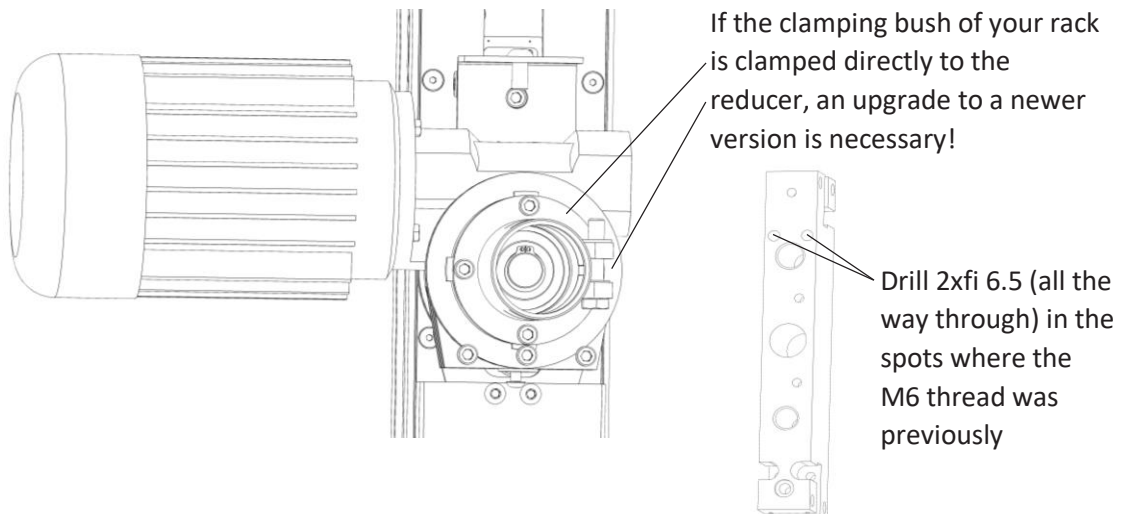
1. BC06 – Safety sensor, UNIOR code: 509682920 (no longer in production),
2. IR+Reed sensor module, upper, UNIOR code: 509682933,
3. IR+Reed sensor module, lower, UNIOR code: 509682934,
4. IR sensor holder 21, 2 pieces, UNIOR code: 909682323,
5. DIN 912 Hexagon socket head cap screw M3x5, 8 pieces, UNIOR code: 3440297,
6. PVC tie, black, VTO13-100, 4 pieces, UNIOR code: 3411712;

- f) Replacing the clamping sleeve: the rack can be in an upright position, remove all 3 drive covers as described in item 3b. Loosen the 4 M6 screws and replace the worn clamping sleeve with a new one. The screws must be protected with glue against automatic unscrewing before they are tightened again.

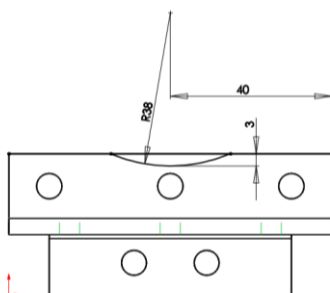
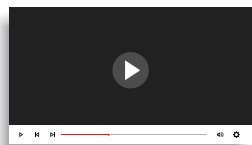
Spare part: Clamping sleeve with service arm handle for 1693EL, UNIOR code: 629166



- g) If your rack is older and the clamping sleeve is screwed to the reduction gear flange, please contact us and we will send you parts and instructions for re-installing the flange, otherwise the flange seal in the reduction gear might loosen and the reduction gear will start leaking oil. This is a shortcoming in the implementation of the purchased component (reduction gear). In this case, we will send you a set to upgrade to the latest version of the clamping sleeve using an additional bracket (same as the parts in item h2). In this situation, the rack drive will have to be completely disassembled (instruction items 1 and 3) and minor upgrade procedures will have to be carried out on the rack drive housing (drilling 2x ϕ 6.5).



- h) If your rack has a welded flange on the bracket and the clamping bush is worn out, there are 2 ways of upgrading to an improved way of attaching the flange, namely:
1. The way that does not require a complete disassembly of the rack. Cut the welded flange from the bracket and grind the bracket until its front surface is flat (use a hand-held angle grinder). Then drill 4 holes and cut an M6 thread four times (positions shown in the picture below). Then install the clamping sleeve as described in item 4f. It is also necessary to grind the arch on the lower frame angle (as shown in the drawing below). To do this, remove the lower frame angle. When carrying out the assembly, all screws must be protected with glue against automatic unscrewing.



Drawing of lower frame angle upgrade



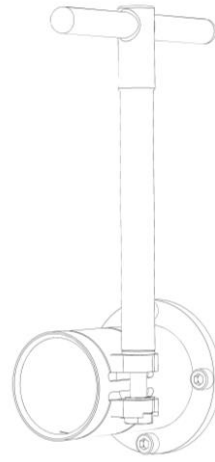
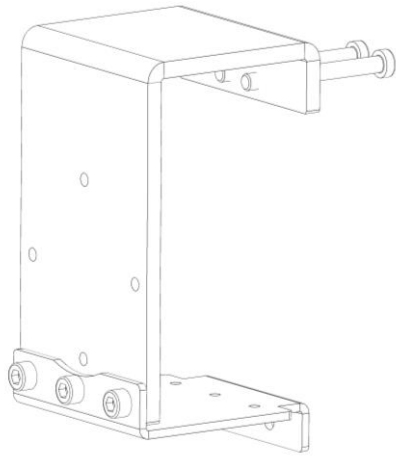
Drawing for drilling, cut four M6 threads

Spare part: Clamping sleeve with service arm handle for 1693EL, UNIOR code: 629166,

2. The way that requires the rack to be disassembled completely. Replace the entire clamping sleeve bracket with a newer one that has a screwed-on clamping sleeve with 4 M6 screws. In this case, the rack must be completely disassembled as shown in instructions 1 and 3 (up to item b4).

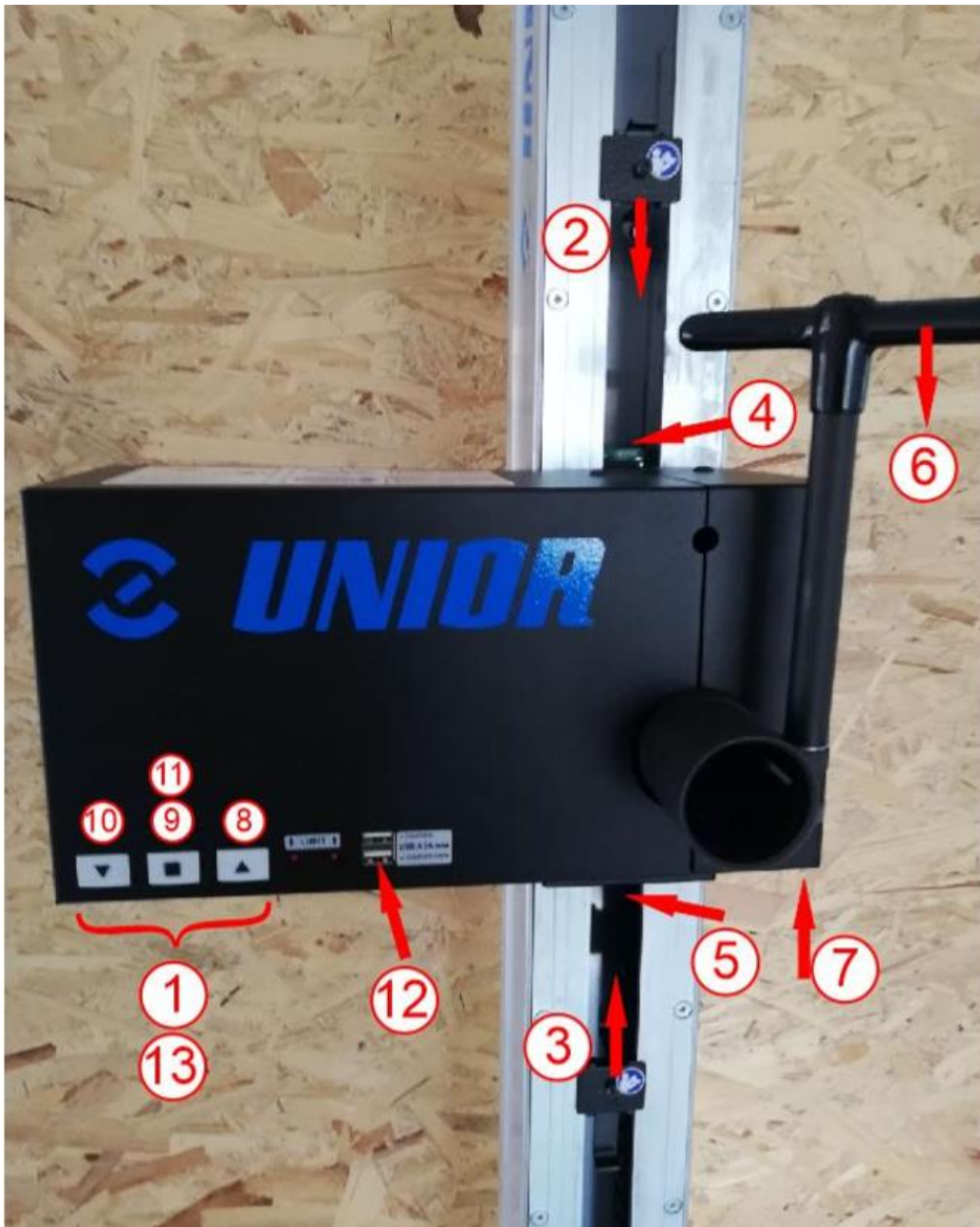
Spare parts:

1. Clamping sleeve with service arm handle for 1693EL, UNIOR code: 629166,
2. Clamping sleeve bracket, UNIOR code 909682623,
3. Low cylinder head screw with hexagon socket M6x60, Din 6912, 2 pieces, UNIOR code: 3440334,
4. Hexagon socket head cap screw M6x12, Din 912, 3 pieces, UNIOR code: 3440219,
5. Frame angle, lower, UNIOR code: 909682303;



The pictures show all parts that are being replaced under this point

Annex A – Test start-up protocol Preden se izvede zagonski protokol utripata obe smerni diodi! Both directional diodes flash before the start-up protocol is executed!



Legend on page 2.

Number on the picture	Testing of the component/operation	Implementation	Signal when it functions correctly*
1	Start of the test start-up protocol	Press all three keys simultaneously	2x short beeps, both red LEDs lit up while the device is beeping
2	Upper chain slider (magnet) for the end position	Pull the upper chain slider down towards the motor housing to its extreme lower position. When the test for this position is confirmed, remove the chain slider from the lower position	1x short beep, the right LED for Limit up lights up. After the chain slider is removed, it remains active
3	Lower chain slider (magnet) for the end position	Pull the lower chain slider up towards the motor housing to its extreme upper position. When the test for this position is confirmed, remove the chain slider from the upper position	1x short beep, the left LED for Limit down lights up. After the chain slider is removed, it remains active
4	Upper IR safety sensor	Insert an obstacle (i.e. a pencil) in the upper part of the safety area	1x short beep, the right LED for Limit up lights up. After the obstacle is removed, it remains active
5	Lower IR safety sensor	Insert an obstacle (i.e. a pencil) in the lower part of the safety area	1x short beep, the right LED for Limit down lights up. After the obstacle is removed, it remains active
6	Upper overload switch	Pull the motor housing down so that the upper overload switch toggles	1x short beep, the right LED for Limit up lights up. After the upper overload switch is released, the LED remains active
7	Lower overload switch	Pull the motor housing up so that the lower overload switch toggles	1x short beep, the left LED for Limit up lights up. After the upper overload switch is released, the LED remains active
8	Drive upward	Press the button "Up"	The motor moves upward, the right LED for Limit down lights up
9	Stop	Press the button "Stop"	The motor is stopped, the right LED turns off
10	Drive downward	Press the button "Down"	The motor moves downward, the left LED for Limit down lights up
11	Stop	Press the button "Stop"	The motor is stopped, the left LED turns off
12	USB charger	Insert the dedicated USB cable "Etalon 1A" into the upper USB connector	Short beep

13	Exit and confirm the test start-up protocol	Press all three buttons simultaneously	2x short beeps, 2x short flashes of the red LED
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*if the testing component is functioning incorrectly, the controller gives out 5 short sound signals and both red LED lights light up.

2. Turn on the automatic driving of the rack

When the “Stop” button is pressed for approximately 6 seconds, the rack switches into automatic driving mode. At the start, we have to manually move it in any direction and then the rack continues with the automatic driving. The rack stops in end positions for approximately 3 seconds; after that it continues driving in the opposite direction. The condition for this operating mode is a passed start up protocol.